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25X1

INFORMATION REPORT

REPORT NO.

CD NO.

COUNTRY USSR (Moscow Oblast)/Germany

DATE DISTR. 22 Sept. 1952

SUBJECT Cathode Sleeve Designs and Cathode Sleeve Cleaning in [redacted] Fryazino
25X1 25X1

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NO. OF ENCLS. 1
(LISTED BELOW)

SUPPLEMENT TO
REPORT NO.

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[redacted] 25X1

THIS IS UNEVALUATED INFORMATION

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Cathode Sleeve Designs

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25X1 1. [redacted] the Cathode Assembly Laboratory, which was a part of the Chemistry Section and which was engaged in the coating of cathodes. [redacted] were
25X1 25X1 received here by Mrs. Chenkina, the chief of the laboratory.

2. Three types of cathode sleeve designs were received [redacted] at the Institute - 25X1
the lapped (or folded) type, the seamless type, and then another type which was used
25X1 only for television tubes. [redacted] sketches of each (see Enclosure A).

3. [redacted] in 1946 only the lapped variety was being received. They
25X1 arrived at irregular intervals in lots of approximately 200, with about 50% of them having open seams and 50% closed seams. Also some of the sleeves were rectangular in shape and others were round. The rectangular ones were, [redacted] about 35 mm long, 4 mm wide, and 2 mm high. The round ones were usually 20 mm long with
25X1

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diameters varying between 1.5 and 3 mm. some of this type were made of magnesium nickel and others of silicon nickel. These sleeves were manufactured in both Germany and the USSR. but there was no change in their dimensions

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4. Beginning in 1949 a new type of sleeve--seamless and similar to the ones in Germany during the war--began to arrive in addition to the previous type. They arrived in unmarked cartons, each carton containing anywhere from 5 to 100 sleeves. Some of this type were round and others were oval. The smallest round ones were approximately 15 mm long and between 1.5 and 2 mm in diameter; the largest were 30 mm long and 8 mm in diameter. The largest oval ones were 50 to 60 mm long, with the two axes being 6 mm and between 2.5 and 3 mm. the smallest ones. This type seemed to be made of molybdenum metal.

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5. During 1951 both types were received, but there were more of the folded than of the seamless type.

25X1

6. Another type, which was used only for TV tubes, began to arrive around 1947. These came in cartons containing about 20 or 30 each. Mrs Chenkina complained about them because her department could not properly coat them. They failed when placed in the TV tubes--probably because the vacuums were poor or the coverings were dirty or because they were carelessly handled after the coatings were applied.

7.

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Cathode Sleeve Cleaning Process

8. The cleaning of the cathode sleeve was not considered important by the USSR. Here is a description of how it was done-- in the USSR.

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9.

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10. In the USSR the following process was employed:

(a) The sleeves were heated with the use of hydrogen in a way similar to the method described for the Special Heating Laboratory [redacted] This method, the Soviets admitted, reduced the emissivity of the cathodes, as it left a light trace of oxidation upon them. 25X1

(b) [redacted] 25X1

25X1 [redacted] The Soviets did, however, clean about 10% of the sleeves according to the German method. This was done, since some of the departments had complained about the quality of the sleeves. Even so, however, their procedure was not as thorough [redacted] 25X1

25X1 [redacted]

ENCLOSURE (A): Sketch 1 Details of Cathode Sleeves
Sketch 2 The Spraying of the Cathode Sleeve in a Frame

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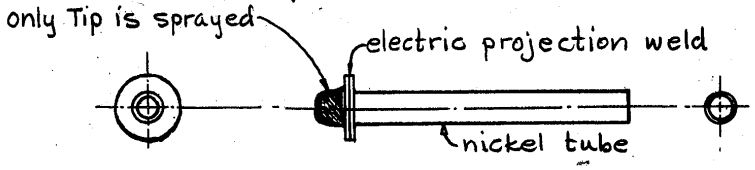
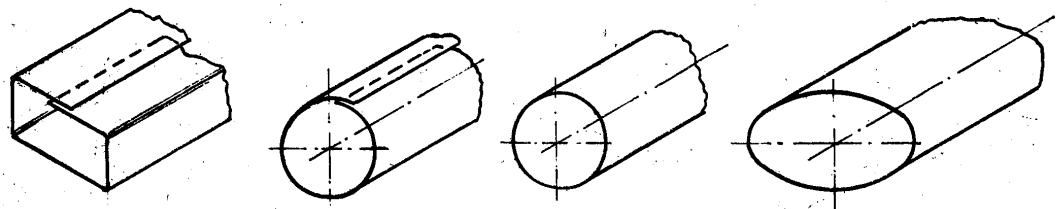
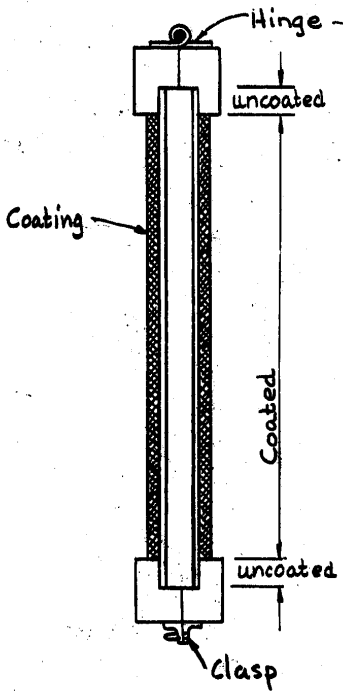


Configuration for Television Use

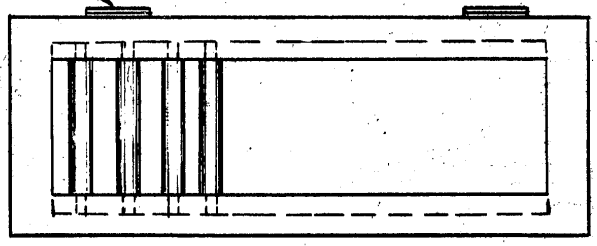


Sketch #1

Details of Cathode Sleeves



Sketch #2



Spraying of Cathode Sleeves in Frame

Enclosure (A)

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